ABSTRACT

HUMAN GENE CRITICAL TO FERTILITY

Disclosed herein are novel nucleic acid and protein sequences that are essential to fertility. In particular, human *Mater* genomic, cDNA and protein sequences are provided, as are fragments and variants thereof. Functional MATER is required for female fertility; zygotes that arise from *Mater* null oocytes do not progress beyond the two-cell stage. Methods are described for using *Mater* molecules in diagnoses, prognosis, and treatment of infertility and reduced fertility, and kits related to such methods. Also provided are methods for using MATER as a contraceptive agent. The disclosure also describes compounds involved in such methods, and the identification of such compounds.